

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today  
(1) was not written for publication in a law journal and  
(2) is not binding precedent of the Board.

Paper No. 26

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte OSAMU NAKAJIMA  
and KUDO SAITAMA

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Appeal No. 1997-1064  
Application 08/391,096<sup>1</sup>

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HEARD: MARCH 7, 2000

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Before JOHN D. SMITH, WARREN and LIEBERMAN, Administrative  
Patent Judges.

JOHN D. SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal pursuant to 35 U.S.C. § 134 from the  
final rejection of claims 1 and 2.

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<sup>1</sup> Application for patent filed February 21, 1995.  
According to appellants, the application is a continuation of  
Application 08/091,019 filed July 14, 1993, now abandoned.

Appeal No. 1997-1064  
Application No. 08/391,096

Appeal No. 1997-1064  
Application No. 08/391,096

Claim 1 is representative and is reproduced below:

1. A friction material comprising a fibrous reinforcement, an inorganic filler, a friction modifier, and an organic thermosetting resin binder, wherein said inorganic filler contains molybdenum trioxide.

As evidence of obviousness, the examiner relies upon the following prior art references:

Marzocchi et al. (Marzocchi)	3,967,037	Jun.
29, 1976		
Nagahiro et al. (Nagahiro)	5,258,441	Nov.
2, 1993		

The appealed claims stand rejected under 35 U.S.C. § 103 as unpatentable over Marzocchi in view of Nagahiro. We cannot sustain the stated rejection.

The subject matter on appeal is directed to a friction material comprising a fibrous reinforcement, an inorganic filler, a friction modifier, a thermosetting resin binder, wherein either a part or the whole of the inorganic filler is constituted by molybdenum trioxide. The presence of molybdenum trioxide is said to provide the claimed friction material with good resistance to fading, the common phenomenon of the friction coefficient lowering during braking. Additionally, the claimed friction material is said to experience a reduction in cracks and deterioration caused by

Appeal No. 1997-1064  
Application No. 08/391,096

ashing at high temperature and high load conditions.

The examiner's conclusion that the claimed friction material would have been obvious to a person of ordinary skill in the art is based on his implicit finding that such a person would have been led to incorporate molybdenum trioxide in the thermosetting binder based friction material described in the Marzocchi reference in light of Nagahiro's teaching that molybdenum trioxide may be usefully incorporated into a frictional material composite formulated with a thermoplastic binder. Specifically, based on the examiner's assertion that Nagahiro teaches the "equivalence of MoO<sub>3</sub> for graphite," the examiner apparently believes that it would have been obvious to replace the graphite filler in Marzocchi's material with molybdenum trioxide. However, Nagahiro teaches that graphite is a heat-conductivity improving filler while molybdenum trioxide is a lubrication improving filler in the described thermoplastic based friction materials. See Nagahiro at column 3, lines 64 and 65 and column 3, line 68 to column 4, line 2. Thus, as argued by appellants, there is inadequate factual support for the assertion that graphite and molybdenum trioxide are equivalent fillers. With respect to the examiner's observation that Marzocchi recites the "useful

incorporation of metal oxides" and thus contemplates the incorporation of the metal oxide, molybdenum trioxide, the examiner should be aware that the fact that a claimed species is encompassed by a prior art genus is not sufficient itself to establish a prima facie case of obviousness of that species. In re Baird, 16 F.3d 380, 382, 29 USPQ2d 1550, 1552 (Fed. Cir. 1994). Finally, the examiner has provided no objective evidence or persuasive reasons in support of his assertion (answer, page 3) that "[o]ne of ordinary skill in the art would have recognized that solid lubricants for thermoplastics would function equivalently in thermosetting polymer compositions."

Accordingly, the stated rejection of the appealed claims cannot be sustained. The decision of the examiner is reversed.

#### OTHER ISSUES

Prior to taking further action in this application, the examiner should reconsider the question of obviousness of the claimed invention by reconsidering the disclosure in Nagahiro at column 3, line 68 to column 4, line 2 that "lubrication improving inorganic powders" for use in a thermoplastic binder

Appeal No. 1997-1064  
Application No. 08/391,096

based friction material include "molybdenum disulfide, carbon and molybdenum trioxide" in light of the disclosure in U.S. Patent No. 4,273,699 issued to Chester on June 16, 1981 at column

2, lines 4-6 that a mixture of "friction and wear modifiers" used in a described prior art thermosetting binder based friction material may include "carbon, graphite, antimony trisulfide and molybdenum disulfide". Thus, the examiner should focus on the question of whether or not one of ordinary skill in this art would have had a reasonable expectation of successfully using molybdenum trioxide as a "friction and wear modifier" in Chester's thermosetting based friction material. The examiner should also note that the Chester patent is described by appellants in their specification at page 1 as disclosing friction materials that have a tendency to develop cracks or to deteriorate due to ashing when used under high-temperature and high-load conditions.

REVERSED

JOHN D. SMITH )  
Administrative Patent Judge )

Appeal No. 1997-1064  
Application No. 08/391,096

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	)	BOARD OF PATENT
CHARLES F. WARREN	)	
Administrative Patent Judge	)	APPEALS AND
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PAUL LIEBERMAN	)	)
Administrative Patent Judge	)	

JDS:hh

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